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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

16 MAR 2005

Applicant's or agent's file reference PCT1979AP071		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IT 03/00019	International filing date (day/month/year) 22.01.2003	Priority date (day/month/year) 17.09.2002	
International Patent Classification (IPC) or both national classification and IPC A63B63/00			
Applicant CRUCIANI, Gabriele			
<p>1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 3 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 16.04.2004		Date of completion of this report 18.01.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Millward, R Telephone No. +31 70 340-3345	



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International application No. **PCT/IT 03/00019**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-15 received on 20.08.2004 with letter of 20.08.2004

Drawings, Sheets

1/11-11/11 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: . . . , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 3-8,11,13

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 3-8,11,13

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1,2,9,10,12
Inventive step (IS)	Yes: Claims	
	No: Claims	1,2,9,10,12
Industrial applicability (IA)	Yes: Claims	1,2,9,10,12
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step or industrial applicability.

- 1) For the original scope of the international search, see the further information sheet PCT/ISA/210, annexed to the international search report.
- 2) Although the search was not specifically directed to the presently claimed structures, since the cited documents appear to anticipate certain claims, an opinion can be given for those claims. The remaining claims are deemed to have not been searched, and thus no opinion can be given for those remaining claims.
- 3) It should also be noted that the amendments filed with the letter dated 20.08.2004 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendments concerned are the following:
 - 3.1) claim 4: "a further sensor located within said external covering" - all original embodiments show the sensor inside the bladder.
 - 3.2) claim 11: "transceiver configured to detect said electronically detectable ball with a spatial resolution that is equal to or less than a diameter of said ball". Neither this wording, nor the technical features necessary to provide such configuration are present in the original filing.
 - 3.3) claim 13: "mobile display means configured to wirelessly communicate with said indicator means". Although the original filing makes mention of two different signalling means which could be derivably considered to fall within the scope of such a claim, there is no support in the original disclosure for such a generalised claim.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 4) Reference is made to the following document:

D1: GB-A-2 001 250 (PRECITEC GMBH) 31 January 1979 (1979-01-31)

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5) The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):
an electronically detectable ball (19);
an external covering enclosing said bladder; (casing; page 3 lines 80-85)
and a sensor, (oscillatory circuit 4a) at least a portion of which is integrated into said bladder, (page 3 lines 80-85 "or in the surface of the ball bladder")

6) Dependent claims 2,9,10 and 12 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty, in view of D1, which also discloses:
claim 2 - (see page 3 lines 65-75) "3 coil arrangements connected in series"
claim 9 - the detection arrangement of D1, (eg page 1 lines 59-81) is identical to a standard metal detector
claim 10 - page 2 lines 93-110, (transmitting conductors 1,2; receiving conductor 3), the support structure being the goal, (page 3 lines 125-128; figure 3)

To be Noted

7) The use of the word "sensor" (eg claim 1) is not clear, since its normal meaning would be that the sensor itself is actively sensing some parameter. However, it appears from the (unclear) description that the term "sensor" is not intended to be limited to such a definition, rather, (see page 3 lines 11-12), to encompass any means which can either actively sense a parameter, or be passively detected by external means.

8) The limitation intended by the term "partially integrated" is not clear from the original filing. In all of the illustrated examples, the sensor is shown to be contained within the bladder. However, "contained within" is not considered synonymous with "integrated into".

For the main, the sensor is seen to be merely adhered to an internal wall of the bladder. (eg pictures 1,2,3)

In two examples, (sheet 2/11, picture(s) "8", and sheet 3/11, picture(s) "5"), the sensor is shown to be embedded (picture 8) or partially embedded (picture 5) in the actual wall of the bladder.

In parts of the text, eg page 6 lines 18-19 "one or more sensors may be applied and adapted in suitable position in the bladder or in the inside volume of the ball.", it appears that the ball need not necessarily have a bladder.

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However, there is no reference to a sensor being mounted such that part of it is within the bladder, with a remaining part outside of the bladder. Therefore, it can only be assumed that this chosen wording ("a portion of which is integrated into the bladder") refers to the examples of pictures 5 and 8, which, as such, clearly excludes the remaining examples from the scope of claim 1.

This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear, Article 6 PCT.

9) According to claim 9, the sensor is configured to be responsive to pressure. It is thus unclear how it would be able to detect when the ball has crossed the goal-line, which is the intended purpose of the invention (see eg title).

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Applicant: CRUCIANI, Gabriele
PCT1979AP053jdc
20 August 2004

NEW CLAIMS 1 - 13

1. An electronically detectable ball usable for a ball game, comprising:

a bladder,

an external covering enclosing said bladder, and

a sensor, at least a portion of which is integrated into said bladder.
2. The electronically detectable ball of claim 1, wherein said portion of the sensor comprises a plurality of individual sensor elements.
3. The electronically detectable ball of claims 1 or 2, further comprising supporting means for supporting at least said portion of the sensor.
4. The electronically detectable ball of any of claims 1 to 3, further comprising an electronic sensor located within said external covering.
5. The electronically detectable ball of any of claims 1 to 4, wherein said sensor comprises a plurality of sensor elements in an inner space enclosed by said bladder.
6. The electronically detectable ball of claim 5, wherein one of said sensor elements is accommodated by a pocket fixed to an inner surface of said bladder.

7. The electronically detectable ball of claim 5, wherein one of said sensor elements is accommodated by a pocket formed by a portion of said bladder.
8. The electronically detectable ball of claim 5, wherein one of said sensor elements is positioned in said inner space by a filling material.
9. The electronically detectable ball of any of claims 1 to 8, wherein said sensor is configured to be responsive to pressure and/or infra-red radiation and/or to a metal detector.
10. A sensor system for detecting a position of an electronically detectable ball, the system comprising:
 - a transceiver configured to detect an electronically detectable ball according to any of claims 1 to 9, and
 - a support structure configured to support said transceiver at a predefined area of a game field.
11. The system of claim 10, wherein said transceiver is configured to detect said electronically detectable ball with a spatial resolution that is equal to or less than a diameter of said electronically detectable ball.
12. The system of any of claims 10 or 11, further comprising an indicator means configured to indicate, when said electronically detectable ball is within a specified region of said predefined area.

13. The system of claim 12, wherein said indicator means comprises a mobile display means configured to wirelessly communicate with said indicator means.